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10/777,870

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Dennis Steven DeLorme

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IBM CORPORATION

ROCHESTER IP LAW DEPT. 917

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EXAMINER

KIM, PAUL

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/777,870	<b>Applicant(s)</b> DELORME ET AL.	
	<b>Examiner</b> PAUL KIM	<b>Art Unit</b> 2169	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 28-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 28-47 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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### **DETAILED ACTION**

1. This Office action is responsive to the following communication: Amendment filed on 5 May 2009.
2. Claims 1-7 and 28-47 are pending and present for examination.

#### ***Continued Examination Under 37 CFR 1.114***

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5 May 2009 has been entered.

#### ***Response to Amendment***

4. Claim 1 has been amended.
5. No claims have been further cancelled.
6. Claims 32-47 have been newly added.

#### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claims 1-7 and 28-47** are rejected under 35 U.S.C. 103(a) as being unpatentable over Cleraux et al (U.S. Patent No. 6,944,620, hereinafter referred to as CLERAUX), filed on 4 November 2002, and issued on 13 September 2005.

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9. **As per independent claims 1, 32, 37, and 42, CLERAUX discloses:**

A method for maintaining a data structure corresponding to an object having a first link from a first directory and a second link from a second directory in a filesystem, the object to which the data structure corresponds being selected from the group consisting of a file and a directory in the filesystem, the first and second directories being parent directories to the object to which the data structure corresponds, the method comprising the steps of:

storing in the data structure a first anchor point for the object {See CLERAUX, C5:L56-60, wherein this reads over "an internal database for the file information" and C62-65, wherein this reads over "the emulation library 220 will access its internal database to retrieve the information for that special UNIX file"} that references the first directory, said first directory implemented on a first filesystem type {See CLERAUX, C6:L11-21, wherein this reads over "the host system 190 uses a Win32 file system, and the target system 180 uses a UNIX file system"; and C7:L12-27, wherein this reads over "[t]he first directory structure 400 can be implemented on a UNIX file system"}; and

storing in the data structure a second anchor point for the object {See CLERAUX, C5:L56-60, wherein this reads over "an internal database for the file information" and C62-65, wherein this reads over "the emulation library 220 will access its internal database to retrieve the information for that special UNIX file"} that references the second directory {See CLERAUX, C7:L22-25, wherein this reads over "since the file or the directory is not on the target system 180, a pointer 402 is provided in place of the file or directory"}, said second directory implemented on a second filesystem type different than the first {See CLERAUX, C6:L11-21, wherein this reads over "the host system 190 uses a Win32 file system, and the target system 180 uses a UNIX file system"; and C7:L12-27, wherein this reads over "the second directory structure 401 can be implemented on a Win32 file system"}; and

concurrently with storing the first and second anchor points, converting the first filesystem type to the second filesystem type while maintaining the filesystem in a full operational capacity {See CLERAUX, C6:L11-21, wherein this reads over "an exemplary configuration file of the emulation library 220 (e.g., a UNIX file library) and the emulation library 220 comprises data to emulate a UNIX File system on a Win32 file system"}.

CLERAUX discloses a system wherein hard links and soft links are used in accessing files and directories of various filesystems such as Win32 and UNIX systems. Specifically, the files and directories of one filesystem (e.g. UNIX) may be used in second filesystem (e.g. Win32) by accessing the files and directories of the UNIX system through an emulation method.

The Examiner notes that while CLERAUX fails to disclose an object having a first link from a first directory and a second link from a second directory in a filesystem such that the first and second directories are parent directories to the object, wherein CLERAUX discloses that UNIX files include hard links and soft links, it would have been obvious to one of ordinary skill in the art that

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said first and second anchor points may be read upon by the hard links and soft links disclosed by CLERAUX. Additionally, it would have been obvious to one of ordinary skill in the art that said files are accessed by accessing a database of hard links and soft links (i.e. anchor points) such that the same file or directory (i.e. data structure) may be accessed by a plurality of different filesystems.

10. **As per dependent claims 2, 33, 38, and 43, CLERAUX discloses:**

The method of claim 1, wherein the object is a file {See CLERAUX, C7:L21-25, wherein this reads over "the file or the directory"}.

11. **As per dependent claims 3, 34, 39, and 44, CLERAUX discloses:**

The method of claim 1, wherein the object is a directory {See CLERAUX, C7:L21-25, wherein this reads over "the file or the directory"}.

12. **As per dependent claims 4, 35, 40, and 45, it would be inherent to the claimed invention that wherein the directory is found in a filesystem, the directory is of the first filesystem implementation.**

13. **As per dependent claims 5, 36, 41, and 46, CLERAUX discloses:**

The method of claim 4, wherein the first link {See CLERAUX, C7:L22-25, wherein this reads over "since the file or the directory is not on the target system 180, a pointer 402 is provided in place of the file or directory"} from the first directory to the object is a directory link {See CLERAUX, C7:L21-25, wherein this reads over "the file or the directory"}.

the second link {See CLERAUX, C7:L22-25, wherein this reads over "since the file or the directory is not on the target system 180, a pointer 402 is provided in place of the file or directory"} from the second directory to the object is a file link {See CLERAUX, C7:L21-25, wherein this reads over "the file or the directory"}.

14. **As per dependent claims 6, 37, 42, and 47, CLERAUX discloses:**

The method of claim 1, further comprising the steps of:

receiving a request for information about the first link {See CLERAUX, C5:L44-46, wherein this reads over "the OS 61.1 detects that needed information is not in memory"};  
and

in response to the request, using the first anchor point when retrieving the information {See CLERAUX, C5:L55-65, wherein this reads over "the server process 221 queries the emulation library"}.

15. **As per dependent claim 7, CLERAUX discloses:**

The method of claim 1, further comprising the steps of:

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receiving a request for information about the object {See CLERAUX, C5:L44-46, wherein this reads over "the OS 61.1 detects that needed information is not in memory"};

selecting the first anchor point instead of the second anchor point to respond to the request {See CLERAUX, C5:L62-65, wherein this reads over "if the requested file is a special UNIX file, such as a device file, the emulation library 220 will access its internal database to retrieve information for that special UNIX file"}.

16. **As per dependent claim 28**, CLERAUX discloses:

The method of claim 1, wherein the second filesystem type is a newer version of the first filesystem type {See CLERAUX, C1:L29-50, wherein this reads over "Windows NT uses Win32 file systems, such as FAT, or NTFS"}.

17. **As per dependent claim 29**, CLERAUX discloses:

The method of claim 28, wherein the second filesystem type is NTFS, and the first filesystem type is FAT32 {See CLERAUX, C1:L29-50, wherein this reads over "Windows NT uses Win32 file systems, such as FAT, or NTFS"}.

18. **As per dependent claim 30**, CLERAUX discloses:

The method of claim 1, wherein the first and second filesystem types are associated with different operating systems {See CLERAUX, C55:L19-25, wherein this reads over "if the host file system format is a Win32 file system and the target file system format is a UFS file system"}.

19. **As per dependent claim 31**, CLERAUX discloses:

The method of claim 30, wherein the first filesystem type is associated with an HP-UX system, and the second filesystem type is associated with a Windows operating system {See CLERAUX, C55:L19-25, wherein this reads over "if the host file system format is a Win32 file system and the target file system format is a UFS file system"}.

The Examiner notes that the Unix filesystem of Cleraux would read upon the HP-UX system recited in the present claim since the HP-UX system is simply a proprietary variant of a Unix filesystem.

### ***Response to Arguments***

20. Applicant's arguments filed 14 November 2008 have been fully considered but they are not persuasive.

a. Rejections under 35 U.S.C. 103

Applicant asserts the argument that "Cleraux fails to disclose or suggest converting a filesystem from one filesystem type to a second filesystem type while

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maintaining the filesystem in a full operational capacity." See Amendment, page 8. The Examiner respectfully disagrees. Specifically, Applicant asserts that Cleraux discloses that a file system is emulated instead of "converting a first filesystem type to a second filesystem type." The Examiner notes that Cleraux discloses a system wherein a data file of a first filesystem implementation may be converted for use in a second filesystem implementation by emulating the second filesystem emulation through an emulation library. Accordingly, it is noted that the file system type of data file is indeed converted into a second filesystem type. Additionally, it is noted that the claim limitations fail to recite a method wherein the data file or directory itself undergoes a conversion that results in the data file or directory being stored as a new data file or directory of a different filesystem implementation.

Additionally, Applicant asserts that Cleraux fails to disclose the limitation of "maintaining the filesystem in a full operational capacity." See Amendment, pages 9-10. The Examiner respectfully disagrees in that wherein the data files are emulated in another filesystem, the respective original data files are maintained such that full operational capacity of said original data files' filesystem is maintained.

Applicant asserts the argument that Cleraux fails to disclose or suggest "storing in the data structure a first anchor point for the object that references the first directory, said first directory implemented on a first filesystem type" and "storing in the data structure a second anchor point for the object that references the second directory, said second directory implemented on a second filesystem type different than the first." See Amendment, page 8. The Examiner respectfully disagrees. Cleraux discloses an invention wherein a repository and an internal database may store file information such that a file may be retrieved. Additionally, it is noted that Cleraux discloses an invention comprising a plurality of file systems such as a UNIX file system and a Win32 file system. A directory structure is implemented for each of said plurality of file systems wherein said

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directory structure corresponds to the format of each respective file system.

Furthermore, Cleraux discloses that a first directory structure may contain a pointer to a file (i.e. an object) on a second directory structure when the first directory structure fails to have stored therein the requested file. Likewise, a second directory structure may contain a pointer to a file on the first directory structure when the second directory structure fails to have stored therein the requested file. Accordingly, wherein the first directory structure contains a link (i.e. a first anchor point) which points to a file (i.e. the object) and the second directory structure stores said file, it would have been obvious to one of ordinary skill in the art that Cleraux discloses the limitations of having anchor points stored in the provided database which reference the same object on a first and a second directory.

For the aforementioned reasons above, the claim rejections under 35 U.S.C. 103 are maintained.

### ***Conclusion***

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAUL KIM whose telephone number is (571)272-2737. The examiner can normally be reached on M-F, 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tony Mahmoudi can be reached on (571) 272-4078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tony Mahmoudi/  
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